

Amendments to the Claims:

Claims 1 - 18 are pending. Claims 3-5 have been amended and claims 8-18 have been added. This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Original) A network device that communicates with other network devices connected through a network, wherein:
 said network device comprising:
 a group management means, which manages a group consisting of network devices that can authenticate one another;
 a cipher communication means, which performs cipher communication with the network devices belonging to said group, using a common encryption key;
 a storage means, which stores cipher communication information required for cipher communication with the network devices belonging to said network, with said information including information of said encryption key and identification information including host names and addresses of the network devices belonging to said group; and
 an acquisition means, which acquires information from outside; and
 when said acquisition means acquires said cipher communication information in a state that said storing means does not store said cipher communication information, said group management means stores said cipher communication information in said storing means and sends identification information of its own network device to the network devices belonging to said group; and
 when said group management means acquires identification information of another network device from said another network device through said cipher communication means, said group management means adds said identification information to said cipher communication information stored in said storage means.

2. (Original) A network device according to claim 1, wherein:

when said acquisition means receives an instruction to withdraw from the group, said group management means notifies withdrawal of its own network device to all the network devices belonging to said group through said cipher communication means, and deletes said cipher communication information from said storing means; and

when a notification of withdrawal of another network device is received from said another network device through said cipher communication means, said group management means deletes identification information of said another network device from said cipher communication information stored in said storing means.

3. (Currently Amended) A network device according to ~~Claim 1~~ or claim 2, wherein:

said acquisition means is an interface with a storage medium; and

when a storage medium, which stores said cipher communication information, is inserted into said acquisition means in a state that said storage medium stores said cipher communication information, said group management means copies the cipher communication information stored in said storage means to said storage medium.

4. (Currently Amended) A network device according to ~~one of~~ claims 1, 2 and 3, wherein:

said network device further comprises:

a non-cipher communication means, which performs non-cipher communication; and

an access control means, which controls accesses to services provided by said network device; and

when there occurs an access from another network device through said non-cipher communication means, said access control means permits said access when said access is an access to a predetermined port.

5. (Currently Amended) A network system comprising a plurality of network devices, and a network that connects said plurality of network devices, wherein:

each of said plurality of network devices is a network device according to ~~one~~
~~of claims 1- 4.~~

6. (Original) A group management method for managing a group consisting of devices connected through a network, with a device of the group being able to perform cipher communication with another device of the group while authenticating each other, comprising:

a group generation step, in which one device connected to said network generates an encryption key used for said cipher communication, and holds, as cipher communication information, said encryption key and identification information including a host name and address of said one device itself;

a first group participation step, in which a device that acquires said cipher communication information notifies identification information of the device itself and information indicating participation of the device itself to all devices whose identification information is stored in said cipher communication information, and said device adds said identification information of the device itself to said cipher communication information and holds said cipher communication information;

a second group participation step, in which a device that receives said identification information and said information indicating the participation adds said identification information to the cipher communication information that said device holds;

a first withdrawal step, in which a device that receives an instruction to withdraw from said group notifies information indicating withdrawal and identification information of the device itself to all devices excluding said device itself whose identification information is stored in said cipher communication information, and deletes the cipher communication information that the device itself holds; and

a second withdrawal step, in which a device that receives the notification of said withdrawal deletes the notified identification information from the cipher communication information that the device itself holds.

7. (Original) A program that makes a computer function as:

a group generation means that generates an encryption key used for cipher communication and holds, as cipher communication information, said encryption key and identification including a host name and address of the computer itself;

a first group participation means that notifies identification information and information indicating participation of the computer itself to all devices whose identification information is stored in said cipher communication information, through cipher communication, and adds the identification information of the computer itself to said cipher communication information, when said cipher communication information is acquired;

a second group participation means that adds said identification information of another device to the cipher communication information that the computer itself holds, when said identification information of said another device and information indicating participation of said another device are received from said another device;

a first group withdrawal means that notifies information indicating withdrawal and identification information of the computer itself to all devices excluding the computer itself whose identification information is stored in the cipher communication, through the cipher communication, and deletes said cipher communication information that the computer itself holds, when an instruction to delete the cipher communication information is received; and

a second group withdrawal means that deletes identification information of another device from the cipher communication information that the computer itself holds, when said identification information of said another device and information indicating withdrawal of said another device are received.

8. (New) A network device according to claim 1, wherein:

said acquisition means is an interface with a storage medium; and
when a storage medium, which stores said cipher communication information, is inserted into said acquisition means in a state that said storage medium stores said cipher communication information, said group management means copies the cipher communication information stored in said storage means to said storage medium.

9. (New) A network device according to claim 8, wherein:

said network device further comprises:

a non-cipher communication means, which performs non-cipher communication; and

an access control means, which controls accesses to services provided by said network device; and

when there occurs an access from another network device through said non-cipher communication means, said access control means permits said access when said access is an access to a predetermined port.

10. (New) A network device according to claim 1, wherein:

said network device further comprises:

a non-cipher communication means, which performs non-cipher communication; and

an access control means, which controls accesses to services provided by said network device; and

when there occurs an access from another network device through said non-cipher communication means, said access control means permits said access when said access is an access to a predetermined port.

11. (New) A network device according to claim 2, wherein:

said network device further comprises:

a non-cipher communication means, which performs non-cipher communication; and

an access control means, which controls accesses to services provided by said network device; and

when there occurs an access from another network device through said non-cipher communication means, said access control means permits said access when said access is an access to a predetermined port.

12. (New) A network system comprising a plurality of network devices, and a network that connects said plurality of network devices, wherein:

each of said plurality of network devices is a network device according to claim 11.

13. (New) A network system comprising a plurality of network devices, and a network that connects said plurality of network devices, wherein:
each of said plurality of network devices is a network device according to claim 10.

14. (New) A network system comprising a plurality of network devices, and a network that connects said plurality of network devices, wherein:
each of said plurality of network devices is a network device according to claim 9.

15. (New) A network system comprising a plurality of network devices, and a network that connects said plurality of network devices, wherein:
each of said plurality of network devices is a network device according to claim 8.

16. (New) A network system comprising a plurality of network devices, and a network that connects said plurality of network devices, wherein:
each of said plurality of network devices is a network device according to claim 1.

17. (New) A network system comprising a plurality of network devices, and a network that connects said plurality of network devices, wherein:
each of said plurality of network devices is a network device according to claim 2.

18. (New) A network system comprising a plurality of network devices, and a network that connects said plurality of network devices, wherein:
each of said plurality of network devices is a network device according to claim 3.

Respectfully submitted,



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